

## TIME TO SPEAK

## Four centuries later, story of Galileo is still unfolding

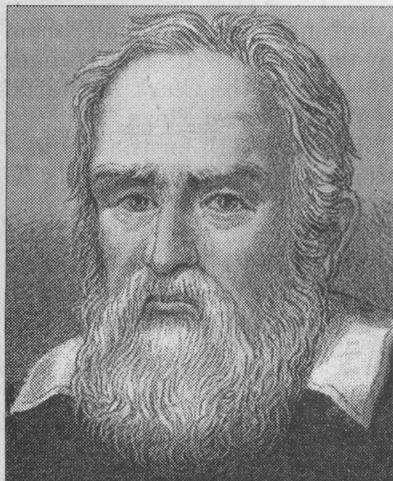
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Galileo Galilei turned a telescope to the heavens four centuries ago this year, changing astronomy forever. Astronomers are celebrating this milestone with the "International Year of Astronomy 2009."

When you hear the name "Galileo," what story comes to mind? "Religion vs. Science?" The man who proved the Earth moved? The man the Catholic Church condemned because a moving Earth contradicts Scripture?

It might surprise you to learn that the usual Galileo story is badly told. Indeed, Galileo actually proved nothing about the Earth's motion — decades after Galileo, astronomers were still looking for proof that Earth moved. The issue was actually "science vs. science," not "religion vs. science" — the scientific objections to Earth's motion were far tougher to overcome than the religious objections.

The church authorities of Galileo's time actually chose one side over the other in a scientific debate. We know the rest of that story: They chose the



Galileo Galilei

wrong side and used unadmirable tactics to force the outcome.

It all seems so obvious today; we see in hindsight how Galileo was right. It is hard to imagine how things looked in the early 17th century, when the only thing that was scientifically certain was that old ideas about the universe would be replaced by new ones. Whether those new ideas would include a moving Earth could not yet be de-

termined.

The Galileo story is better told in the "Fathers of Astronomy" exhibit that is at Louisville's Frazier International History Museum through Jan. 3. The exhibit features an original edition of Galileo's *Dialogue Concerning the Two Chief World Systems* (the book that brought about his condemnation by the church) and illustrated discussions about the scientific debate over earth's motion and Galileo's role in that debate.

"Fathers of Astronomy" is not a traveling exhibit just visiting Louisville — it is "crafted with pride in Kentucky." The exhibit's *Dialogue* comes from the University of Louisville libraries. It is part of a rare book collection assembled by a Kentuckian, William Marshall Bullitt. The exhibit's illustrated discussions come from Jefferson Community & Technical College's Otter Creek-South Harrison observatory, home to an active program of research into Galileo's work.

Recently published research from that observatory — by



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Henry Sipes of St. Martin of Tours parish in Flaherty, Ky., and yours truly, of St. Joseph parish, Louisville — may further complicate the Galileo story. It seems that, because Galileo did not understand certain details of how telescopes worked, the scientific case for a moving Earth was actually far weaker than he acknowledged.

Galileo could have used his telescope to produce more powerful arguments against Earth's motion than he ever produced in favor of it. Science is like that a lot — only in the movies does reality unfold suddenly and clearly before the inquiries of a lone genius.

Though four centuries have passed since Galileo first turned a telescope to the heavens, his story is still unfolding. Kentuckians — Catholics in the Archdiocese of Louisville, in fact — are working today to uncover more of his story.